

WHAT IS CLAIMED IS:

1. A printing apparatus for performing printing using a printhead having a plurality of printing elements, comprising:

5 means for inputting print data;

converting means for converting print data to drive data corresponding to the printing elements;

transfer means for transferring the drive data to the printhead in a serial format in units of N bits at
10 a time;

driving means for driving the printing elements based upon the drive data;

counting means for counting M-bits of data transferred first among the drive data in synchronism
15 with transfer of the drive data by said transfer means, where $N > M$;

detecting means for detecting an increase in the value of a count obtained by said counting means; and

voltage generating means for outputting a voltage
20 that drives the printing elements;

wherein if said detecting means has detected an increase in the value of the count, said voltage generating means raises the output voltage before said driving means performs drive based upon drive data
25 transferred next.

2. The apparatus according to claim 1, wherein said voltage generating means has an error amplifier for

outputting a control signal in accordance with an error between a reference voltage and an input voltage; and

if said detecting means has detected an increase
5 in the value of the count, the value of the reference voltage is changed.

3. The apparatus according to claim 2, wherein said voltage generating means differentiates a signal that is output in accordance with detection by said
10 detection means and adds a voltage, which has been obtained via a time-constant circuit and a current adding circuit, to the reference voltage.

4. The apparatus according to claim 1, wherein in a case where the value of the count is classified into
15 at least three stages and the value of the count changes by more than a prescribed stage, said detecting means detects an increase in the counted value.

5. The apparatus according to claim 1, wherein the
20 printhead is a printhead that performs printing by discharging ink.

6. The apparatus according to claim 5, wherein the printhead has an electrothermal converter for generating thermal energy applied to the ink.

25 7. A printing apparatus for performing printing using a printhead having a plurality of printing elements, comprising:

means for inputting print data;
converting means for converting print data to
drive data corresponding to the printing elements;
transfer means for transferring the drive data to
5 the printhead a prescribed number of bits at a time;
driving means for driving the printing elements
based upon the drive data;
first detecting means for detecting amount of
power load of printing elements driven simultaneously,
10 based upon the drive data transferred by said transfer
means;
second detecting means for detecting an increase
in amount of power load; and
voltage generating means for outputting a voltage
15 that drives the printing elements;
wherein if said second detecting means has
detected an increase in the amount of power load, said
voltage generating means raises the output voltage
before said driving means performs drive based upon
20 drive data transferred next.

8. A method of controlling a printing apparatus for
performing printing by a printhead having a plurality
of printing elements each driven by electrical energy,
the number of printing elements driven simultaneously
25 being changed in accordance with drive data, said
method comprising:

a transfer step of transferring drive data to the printhead in a serial format in units of N bits at a time;

a counting step of counting M-bits of data transferred first among the transferred drive data, where $N > M$;

a determination step of determining whether the number of simultaneously driven printing elements has increased greatly, based upon a count value regarding print data that has been transferred previously and a count value regarding drive data to be transferred later; and

an energy increasing step of increasing electrical energy, which is supplied to the printhead, before the printhead is driven by drive data to be transferred later, if it has been determined that the number of simultaneously driven printing elements has increased greatly.